What is claimed is:

1. A vibration type angular velocity sensor comprising:

first and second sensor units each having a vibrator oscillating in a predetermined standard vibrating direction, and a sensing waveform generating section that detects an angular velocity oscillatory component generating in an angular velocity sensing direction differentiated from said standard vibrating direction when an angular velocity is applied to said vibrator and also generates an angular velocity sensing waveform based on said angular velocity oscillatory component, said first and second sensor units causing their vibrators to oscillate with mutually opposite phases in said standard vibrating direction so as to cause respective sensing waveform generating sections to generate first and second angular velocity sensing waveforms having mutually inverted phases,

differential waveform detecting means for obtaining a differential waveform between said first angular velocity sensing waveform and said second angular velocity waveform so as to cancel in-phase components acting to respective vibrators of said first and second sensor units in said angular velocity sensing direction, and

input gain adjusting means for adjusting at least one of an input gain of said first angular velocity sensing waveform and an input gain of said second angular velocity sensing waveform entered into said differential waveform detecting means so as to reduce a residual in-phase component of said differential waveform.

2. The vibration type angular velocity sensor in accordance with claim 1, wherein

said differential waveform detecting means includes a differential amplification circuit that inputs analog data of said first and second angular velocity sensing waveforms, and said gain adjusting means includes an

analog input gain adjusting circuit that adjusts an analog input gain of said angular velocity sensing waveform.

3. The vibration type angular velocity sensor in accordance with claim 2, wherein

said sensing waveform generating section includes a vibration detecting capacitor for changing the distance between electrodes in accordance with said angular velocity oscillatory component, a bias power source for applying a constant bias voltage to said vibration detecting capacitor, and a charge amplifier for detecting a charge amount change of said vibration detecting capacitor in accordance with a change of said distance between the electrodes when said bias voltage is applied and for converting the detected charge amount change into a voltage to output an angular velocity sensing voltage waveform,

said analog input gain adjusting circuit is disposed between said charge amplifier and said differential amplification circuit for adjusting an input gain of said angular velocity sensing voltage waveform produced from said charge amplifier and entered into said differential amplification circuit.

4. The vibration type angular velocity sensor in accordance with claim 2, wherein

said analog input gain adjusting circuit has a buffer amplifier provided at an input stage of said differential amplification circuit that inputs said angular velocity sensing waveform,

at least part of a gain determining resistor of said buffer amplifier is constituted by a variable resistor, and

an output of said buffer amplifier being gain adjusted based on resistance value adjustment of said variable resistor is entered into said differential amplification circuit as the angular velocity sensing waveform having been subjected to analog input gain adjustment.

5. The vibration type angular velocity sensor in accordance with claim 3, wherein

said analog input gain adjusting circuit includes a variable resistor constituting at least part of the gain determining resistor of said differential amplification circuit, and said analog input gain adjusting circuit adjusts the analog input gain of said angular velocity sensing waveform entered into said differential amplification circuit based on resistance value adjustment of said variable resistor.

6. The vibration type angular velocity sensor in accordance with claim 4, wherein said variable resistor has a resistance value being irreversibly variable and adjustable only in a predetermined direction.

7. The vibration type angular velocity sensor in accordance with claim 6, wherein said variable resistor is a laser trimmable resistor.

8. The vibration type angular velocity sensor in accordance with claim 1, further comprising phase adjusting means for adjusting an input waveform phase of at least one of said first angular velocity sensing waveform and said second angular velocity waveform to be entered into said differential waveform detecting means.

9. The vibration type angular velocity sensor in accordance with claim 1, wherein

a signal processing section is provided for each output of said first and second sensor units to remove a noise component having a frequency different from a driving frequency of said vibrator,

the in-phase components acting to respective vibrators of said first and second sensor units include a proximity noise oscillatory component

within a frequency region ranging to ±50% about the driving frequency, and

said input gain adjusting means executes an amplitude adjustment for a sensor output waveform produced as a composite output of the angular velocity oscillatory component and said proximity noise oscillatory component, for at least one of said first and second sensor units, thereby reducing a relative amplitude difference between two proximity noise oscillatory components of respective sensor units.

10. The vibration type angular velocity sensor in accordance with claim 5, wherein said variable resistor has a resistance value being irreversibly variable and adjustable only in a predetermined direction.

11. The vibration type angular velocity sensor in accordance with claim 10, wherein said variable resistor is a laser trimmable resistor.